

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A disk drive device for recording and/or reproducing information to and/or from an information recording disk and driven by a power supply voltage in a vehicle, said disk drive device comprising an engine start detecting part for detecting an engine start of ~~said the~~ vehicle, said disk drive device being driven after said engine start detecting part detects an engine start of said vehicle.

2. (Currently amended) A disk drive device for recording and/or reproducing information to and/or from an information recording disk and driven by a power supply voltage in a vehicle, said disk drive device comprising:

a head for reading and/or writing information from and/or to ~~said the~~ information recording disk;

a head driving part for giving a driving ~~instruction~~ instructions to said head;

an engine start detecting part for detecting an engine start of said vehicle; and

a head movement allowing part for allowing ~~the said~~ head to be moved by instructions from said head driving part after ~~an the~~ engine start of the vehicle is detected by said engine start detecting part.

3. (Currently amended) The disk drive device according to claim 2, further comprising a forcible moving part for forcibly moving said head to a retreat position when the power supply voltage ~~in said vehicle~~ to said disk drive device is interrupted.

4. (Currently amended)) The disk drive device according to claim 3, further comprising a spindle motor for rotating the recording disk, wherein:


said forcible moving part forcibly moves said head to the retreat position by providing said head driving part with counter electromotive force generated by ~~the~~ inertial rotation of a said spindle motor, ~~driving said recording disk to rotate~~.

5. (Currently amended) The disk drive device according to claim 1, further comprising a voltage value monitoring circuit for monitoring voltage values on a first power supply line

provided with a backup power supply and a second power supply line provided with a power supply when an engine key is inserted in the vehicle and turned from a first position to a second position,

said engine start detecting part outputting an engine start detection signal when the monitored voltage value on said second power supply line reaches a prescribed value, ~~and then following which~~ the monitored voltage value on the first power supply line or the monitored voltage values on the first power supply line and on the second power supply line become lower than said prescribed value and then become higher than said prescribed value, based on an output value from said voltage value monitoring circuit.

6. (Currently amended) The disk drive device according to claim 5, ~~further comprising a~~ wherein:

 said voltage value monitoring circuit ~~for monitoring~~ monitors a voltage value on a third power supply line provided with a power supply when ~~an~~ the engine key is turned from the second position to a third position, and monitors a voltage value on a fourth power supply line provided with a power supply when the engine key is turned from ~~said the~~ the third position to a fourth position, and

said engine start detecting part ~~outputting~~ outputs an engine start detection signal when the monitored voltage value on ~~said the~~ the second power supply line or ~~said the~~ the third power supply line reaches a prescribed value, ~~and then following which~~ the monitored voltage value on ~~said the~~ the first power supply line or the monitored voltage values on ~~said the~~ the first power supply line and ~~said on the~~ on the second power supply line become lower than ~~said the~~ the prescribed value and then become higher than ~~said the~~ the prescribed value, based on an output ~~value~~ from said voltage value monitoring circuit.

7. (Currently amended) The disk drive device according to claim 1, wherein said engine start detecting part ~~outputs a signal representing an operation state of~~ detects the engine start by sensing an output of an engine tachometer.

8. (Currently amended) The disk drive device according to claim 1, wherein said engine start detecting part ~~outputs a signal representing an operation state of~~ detects the engine start by sensing vibration of the engine inside and outside the vehicle.
9. (Currently amended) The disk drive device according to claim 1, wherein said engine start detecting part ~~outputs a signal representing an operation state of~~ detects the engine start by sensing an engine sound.
10. (Currently amended) The disk drive device according to claim 1, wherein said engine start detecting part ~~outputs a signal representing an operation state of~~ detects the engine start by sensing traveling of the vehicle based on a vehicle speed pulse.
11. (Currently amended) The disk drive device according to claim 1, wherein said engine start detecting part ~~outputs a signal representing an operation state of~~ detects the engine start by sensing traveling of the vehicle using a gyro sensor.
12. (Currently amended) The disk drive device according to claim 1, wherein said engine start detecting part ~~outputs a signal representing an operation state of~~ detects the engine start by sensing an operation position of a parking brake.
13. (Currently amended) The disk drive device according to claim 1, wherein said engine start detecting part ~~outputs a signal representing an operation state of~~ detects the engine start by sensing operation of a generator in the vehicle.
14. (Currently amended) The disk drive device according to claim 1, wherein said engine start detecting part ~~outputs a signal representing an operation state of~~ detects the engine start by sensing activation of a starter-motor.
15. (Currently amended) The disk drive device according to claim ~~10~~ 1, further comprising a memory, wherein information ~~on~~ from a previous off state of the engine is backed up in a said memory, and ~~said the backed-up~~ information is displayed provided for

display on a screen in response to detection of ~~a power supply~~ being provided to ~~said the~~ second power supply line.

16. (Currently amended) A disk drive device driven by a power supply voltage in a vehicle, said disk drive device comprising:  
a counter for starting a counting operation based on a prescribed signal related to a key switch in ~~said the~~ vehicle; and  
a controller for driving said disk drive device when said counter has counted a first prescribed time period.

af 17. (Currently amended) A disk drive device driven by a power supply voltage in a vehicle, said disk drive device comprising:  
a head for reading/writing information from/to a recording medium mounted to said disk drive device;  
a head driving part for giving a driving instruction to said head;  
a counter for starting a counting operation based on a prescribed signal related to a key switch in ~~said the~~ vehicle; and  
a head movement allowing part for allowing ~~the said~~ head to be moved by the given driving instruction from said head driving part when said counter has counted a first prescribed time period.

18. (Currently amended) The disk drive device according to claim 16, further comprising a power supply part for providing a power supply voltage to each part of said disk drive device in connection with the key switch in ~~said the~~ vehicle, wherein:

said counter ~~starting~~ starts the counting operation after the power supply voltage by ~~said from the~~ power supply part is provided to said disk drive device by ~~said the~~ key switch.

19. (Currently amended) The disk drive device according to claim ~~16~~ 18, further comprising a voltage value monitoring circuit for monitoring a voltage value at said power supply part; ~~and~~ wherein:

~~a said controller for detecting~~ detects a voltage value result at said voltage value monitoring circuit after ~~said the~~ first prescribed time period, ~~controlling controls~~ said counter to count ~~again a second prescribed time period~~ when ~~said the~~ voltage value is lower than a prescribed value when the voltage value result is detected, and ~~driving drives~~ said disk drive device when said counter has counted ~~a the~~ second prescribed time period.

20. (Currently amended) The disk drive device according to claim ~~16~~ 18, further comprising a forcible moving part for forcibly moving said head to a retreat position when ~~said the~~ power supply voltage in said vehicle to said disk drive device is interrupted.

21. (Currently amended) The disk drive device according to claim 20, further comprising a spindle motor for rotating the recording medium, wherein:

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said forcible moving part forcibly moves said head to ~~a the~~ retreat position by providing said head driving part with counter electromotive force generated by ~~the~~ inertial rotation of ~~a the~~ spindle motor, ~~driving said recording medium to rotate.~~

22. (Currently amended) The disk drive device according to claim 16, further comprising an engine start detecting part for detecting an engine start of the vehicle, wherein:

said disk drive device ~~being is~~ driven when an engine start of the vehicle is detected by said engine start detecting part during the operation of said counter counting ~~said the~~ first prescribed time period.

23. (New) The disk drive device according to claim 1, further comprising:

a counter for starting a counting operation based on a prescribed signal related to a key switch in the vehicle; and

a controller for driving said disk drive device when said counter has counted a first prescribed time period.

24. (New) A disk drive device for recording and/or reproducing information to and/or from an information recording disk and driven by a power supply voltage in a vehicle, said disk drive device comprising a sensor for detecting a vehicle condition indicative of an engine

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26 start of the vehicle, said disk drive device being driven after said sensor detects the condition to indicate an engine start of the vehicle.

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